Precipitation records near Independence, Cal., 1908-09.

Number of gage.	Station.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Total.
	Tabasas	Ins.	Ins. 0. 14	Ins.	Ins. 0, 16	Ins. 3, 51	Ins. 3.00	Ins. 0. 23	Ins. 0. 22	Ins. 0.00	Ins. 0,00	Ins. 0,00	lns. (0.20)	Ins.
2		(0.85)	0.06	(T.)	0.15	4. 52	3.22	0.24	T.	0.00	0.00	0.00	(0.05)	9.09
4			0.04 0.05	(T.) (T.)	0. 27 0. 26	4.85 6.32	4. 02 3. 77	0.28 0.37	0.04 0.02	0.00 0.00	0.00 0.00	0.00 0.00	(0.05) (0.05)	10.40 11.74
5 6	.¦do	(0.95)	0. 12 (0. 17)	(0, 10) (0, 15)	0, 28 (0, 12)	8. 93 (12. 69)	5. 23 7. 49	0.80 1.42	0, 02 0, 05	0.00 0.00	0.00 0.00	0.00 0.00	(0. 10) (0. 15)	16.53 23.24
7	Oak	(0.85)	(0.04) (0.05)	T.	0. 19 0. 21	3.44 4.65	2.52 3.06	0.12 0.36	0.02 0.00	0.00 0.00	0.00	0.00 0.00	0.04	7. 22 9. 24
8	do	(0.90)	(C.06)	Ť. 0.08	0. 25 0. 25	5. 89 7. 69	3.49	0.71	0.00 0.00	0.00 0.00	0.00 0.00	6.00	0.05 0.07	11.35
11	.]. <u>.</u> do	(1,00)	(0. 10) (0. <u>15)</u>	0.23	0.31	11,49	4.62 6.61	0.71 1:68	0.02	0.00	0.00	0.00 0.00	0. 15	14.47 21.04
13		(0.85)	T. T.	(T.) (T.)	0, 22 0, 26	1.53 2.67	1.53 2.06	0. 15 0, 15	. T. C.00	0.00 0.00	0.00 0.00	0.00 0.00	T. 0.10	4.28 6.09
14 15	. do	(0.90) (0.95)	T. 0.14 !	(T.) (0. 10)	0, 27 0, 29	3.48 5.05	2.56 4.36	0, 29 1	0. CO (T.	0, 00 0, 00	0.00	0.00 0.00	0. 13 0. 15	7.63 11.67
16		(1.00)	0.28	(0. 15)	0. 29	6.43	4.98	1.00	0.07	0.00	0.06	0.00	0.14	14.34
U.S. Weather Bureau, at Independenc	e	0.84	0.03	0.01	0.20	3.27	2.73	0.16	0.12	T.	т.	0.00	0.25	7.61

Values in parentheses are estimated by C. H. Lee.

Baker Creek near Big Pine. Big Pine Creek near Big Pine. Birch Creek near Tinemaha.

Tinemaha Creek near Tinemaha.

Taboose Creek near Tibbetts.

Goodale Creek near Tibbetts.

Division Creek near Tibbetts.

Sawmill (Eight Mile) Creek near Independence.

Thibaut Creek near Independence.

Oak Creek near Independence.

Independence Creek near Independence.

Shepards Creek near Thebe.

Bairs (Moffit) Creek near Independence.

Georges Creek near Thebe.

Lone Pine Creek near Lone Pine.

Tuttle Creek near Lone Pine.

Cottonwood Creek near Olancha.

Ash Creek near Olancha.

The following table shows the mean yearly discharge of the Owens River and its principal tributaries:

Owens River near Round Valley 287.0 216.0 358.0 381.0 241. Rock Creek near Round Valley 40.3 28.2 63.7 60.0 31. Pine Creek near Bishop 111.0 83.5 166.0 12.6 78. Sig Pine Creek near Big Pine 49.1 53.5 160.0 12.6 78. Sig Pine Creek near Tibbetts 6.0 5.9 3. 12.1 9.5 5. Goodale Creek near Tibbetts 6.0 5.9 3. 3.5 10.2 7. Joivision Creek near Independence 9.7 10.2 7. Jak Creek near Independence 15.1* 31.1 21.8 11. Ishepards Creek near Independence 15.1* 31.1 21.8 11. Bairs Creek near Independence 4.7 1. 1. 7. Baorges Creek near Thebe 9.4 7. 1. 1. 23.0 19. Lone Pine Creek near Lone Pine 31.1 23.0 19. 19. 10.0 10.0 19. 10.0 10.0 10.0 10.0 10.0 10.0 <th>Gaging stations.</th> <th>1904</th> <th>1905</th> <th>1906</th> <th>1907</th> <th>1908</th>	Gaging stations.	1904	1905	1906	1907	1908
Rock Creek near Round Valley 40,3 26,2 63,7 60,0 31. Pine Creek near Round Valley 34,0 16,6 44,4 46,7 14. Sishop Creek near Bishop 111,0 83,5 166,0 12,6 78. Sig Pine Creek near Tibbetts 49,1 53,5 58,0 40. Faboose Creek near Tibbetts 12,1 9,5 5. Goodale Creek near Independence 9,7 10,2 7. Pak Creek near Independence 9,7 10,2 7. Independence Creek near Independence 15,1* 31,1 21,8 11. Shepards Creek near Thebe 11,0 7. Bairs Creek near Thebe 4,7 11. Longes Creek near Thebe 9,4 7. Lone Pine Creek near Lone Pine 31,1 23,0 19. Futtle Creek near Lone Pine 15,4 9,9 8. Cuttonwood Creek near Olancha 75,8 40,4 27.						
Pine Creek near Round Valley 34.0 16.6 44.4 46.7 14. Bishop Creek near Bishop 111.0 83.5 166.0 12.6 78. Big Pine Creek near Tibbetts 49.1 53.5 58.0 40. Caboose Creek near Tibbetts 6.0 5.9 3. 40. Biodale Creek near Tibbetts 9.7 10.2 7. 7. Jak Creek near Independence 33.0 22.7 15. 15. 11.0 21.8 11.0 11.0 7. 28. 24.7 15. 14.0 7. 21.8 11.0 7. 2. 2. 7. 2. 7. 2. 1. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 7. 2. 1. 2. 7. 1. 2. 7. 2. 7. 2. 2. 2. 1. 1. </td <td>wens River near Round Valley</td> <td>. 287.0</td> <td></td> <td></td> <td></td> <td></td>	wens River near Round Valley	. 287.0				
Bishop Creek near Bishop 111.0 83.5 166.0 12.6 78.0 49.1 53.5 166.0 12.6 78.0 49.1 53.5 160.0 49.1 49.1 53.5 18.0 49.1 49.1 58.0 49.1 49.2 58.0 49.2 49.2 58.0 49.2 49.2 59.2 3.5 59.2 3.5 59.2 3.5 59.2 3.5 59.2 15.2	lock Creek near Round Valley	. 40.3				
Big Pine Creek near Big Pine 49,1 53.5 58.0 40. Paboose Creek near Tibbetts 12.1 9.5 5. Coodals Creek near Tibbetts 6.0 5.9 3. Division Creek near Independence 9.7 10.2 7. Dak Creek near Independence 15.1 31.1 21.8 Division Creek near Independence 15.1 31.1 27. Division Creek near Thebe 9.4 7. Division Creek near Independence 9.4 7. Division Creek near Independence 9.4 7. Division Creek near Independence 15.1 23.0 19. Division Creek near Independence 15.4 9.9 8. Division Creek near Independence 15.4 9.9 8. Division Creek near Independence 75.8 40.4 27. Division Creek near Independence 15.4 9.9 8. Division Creek near Independence 75.8 40.4 27. Division Creek near Independence 75.8 40.4						
Faboose Creek near Tibbetts 12.1 9.5 5. Goodale Creek near Tibbetts 6.0 5.9 3. Division Creek near Independence 9.7 10.2 7. Jak Creek near Independence 35.0 22.7 15. Independence Creek near Independence 15.1* 31.1 21.8 11.0 Shepards Creek near Thebe 11.0 7. Bairs Creek near Independence 4.7 1. Lore Pine Creek near Thebe 9.4 7. Lone Pine Creek near Lone Pine 31.1 23.0 19. Tuttle Creek near Lone Pine 15.4 9.9 8. Cuttonwood Creek near Olancha 75.8 40.4 27.	Bishop Creek near Bishop	.: 111.0				78.
Goodale Creek near Tibbetts 6.0 5.9 3.0 Division Creek near Independence 9.7 10.2 7.0 Dak Creek near Independence 35.0 22.7 15.0 Independence Creek near Independence 15.1* 31.1 21.8 11.0 Bairs Creek near Thebe 11.0 7.0 Bairs Creek near Independence 4.7 1.0 Ceorges Creek near Thebe 9.4 7.0 Lone Pine Creek near Lone Pine 31.1 23.0 19.0 Cuttonwood Creek near Lone Pine 15.4 9.9 8.0 Cuttonwood Creek near Olancha 75.8 40.4 27.0 Cuttonwood Creek near Olancha 75.8 75.0 Cuttonwood Creek near Olancha	Big Pine Creek near Big Pine	. 49.1	53.5			40.0
Division Creek near Independence 9.7 10.2 7.	Saboose Creek near Tibbetts	. i .	i	12.1	9.5	5.
Division Creek near Independence 9.7 10.2 7. Dak Creek near Independence 35.0 22.7 15. Independence Creek near Independence 15.1* 31.1 21.8 11. Shepards Creek near Thebe 11.0 7. Bairs Creek near Independence 4.7 1. Georges Creek near Thebe 9.4 7. Lone Pine Creek near Lone Pine 31.1 23.0 19. Tuttle Creek near Lone Pine 15.4 9.9 8. Cottonwood Creek near Olancha 75.8 40.4 27.	oodale Creek near Tibbetts	. I		6.0	5.9	3.
Dak Creek near Independence. 35.0 32.7 15. independence Creek near Independence. 15.1* 31.1 21.8 11. shepards Creek near Thebe. 11.0 7. Bairs Creek near Independence. 4.7 1. Lorges Creek near Thebe. 9.4 7. Lone Pine Creek near Lone Pine. 31.1 23.0 19. Puttle Creek near Lone Pine. 15.4 9.9 8. Cuttonwood Creek near Olancha 75.8 40.4 27.	Division Creek near Independence	. !	1	9.7	10.2	7.
Independence Creek near Independence 15.1* 31.1 21.8 11.5 11.9 77.5 11.9 77.5 11.9 77.5 11.9 77.5 11.9 77.5 11.9 77.5 11.9 77.5 11.9 77.5 11.9 77.5 11.9 77.5	ak Creek near Independence	1		35.0	22.7	15.
Shepards Creek near Thebe					21.8	11.
Bairs Creek near Independence 4.7 1. Reorgee Creek near Thebe 9.4 7. Lone Pine Creek near Lone Pine 31.1 23.0 19. Luttle Creek near Lone Pine 15.4 9.9 8. Lottonwood Creek near Olancha 75.8 40.4 27.						7.
Georges Creek near Thebe	Sairs Creek near Independence				4.7	i.
Lone Pine Creek near Lone Pine 31.1 23.0 19. Futble Creek near Lone Pine 15.4 9.9 8. Outtonwood Creek near Olancha 75.8 40.4 27.	Soorges Creek near Thehe				9.4	7.
Puttle Creek near Lone Pine. 15.4 9.9 8. Cottonwood Creek near Olancha 75.8 40.4 27.	one Pine Creek near Lone Pine		1	21 1		
Cuttonwood Creek near Olancha	Puttle Creek near Lone Pine	• • • • • • • •		15.4		
	Luttonwood Crook noor Olencha	.	i	75 8		
	Ottour Oleca Lear Olancha					5.

^{*} For June to December.

FLOODS IN SOUTHERN CALIFORNIA.

By A. B. Wollaber, Local Forecaster, Los Angeles, Cal.

From December 30, 1909, to January 2, 1910, heavy rains fell in southern California. In the valleys the amounts ranged between 3 and 4 inches, while in the foothills and mountains, to the north and east, from 10 to 16 inches fell during the storm. The rain was accompanied by warmer weather than usual and the snow on the higher levels melted rapidly, causing a rapid rise in all mountain streams, which soon became raging torrents carrying a heavy flow to the valleys below. Even the small washes that have been dry for years were running bank full and while nearly all streams overflowed their banks in places the greatest damage was done by the San Gabriel River, which left the new bed formed by this stream during the flood of 1874 and returned to the old channel, inundating many acres of rich farming land and orchards and carrying out bridges in many places. The area flooded by this stream in the vicinity of Los Angeles was about 5 miles long and from $\frac{1}{2}$ to $\frac{3}{4}$ of a mile in width. Near Santa Ana several hundred acres of rich celery land were also covered and that portion of the crop not already marketed was practically ruined.

Railroads, both steam and electric, suffered the most damage, all transcontinental trains being badly delayed by washouts, while the suburban service to the flooded districts had to be abandoned. It is difficult to estimate the loss occasioned by the flood, but conservative estimates place the total in this section between \$200,000 and \$250,000.

No river and flood service is maintained by the Bureau in this section and no warnings were issued, except the usual rain warnings sent out before each big storm.